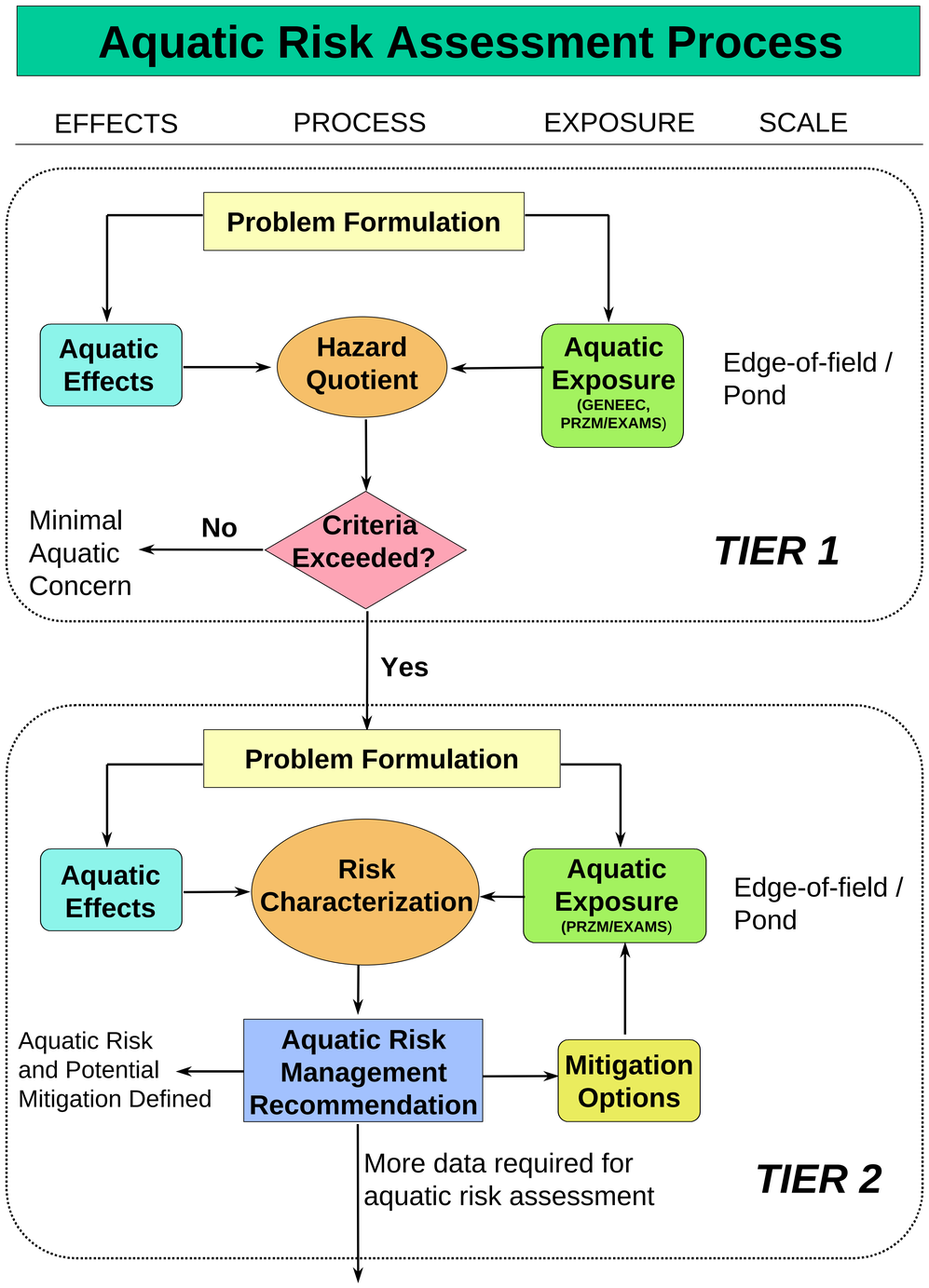
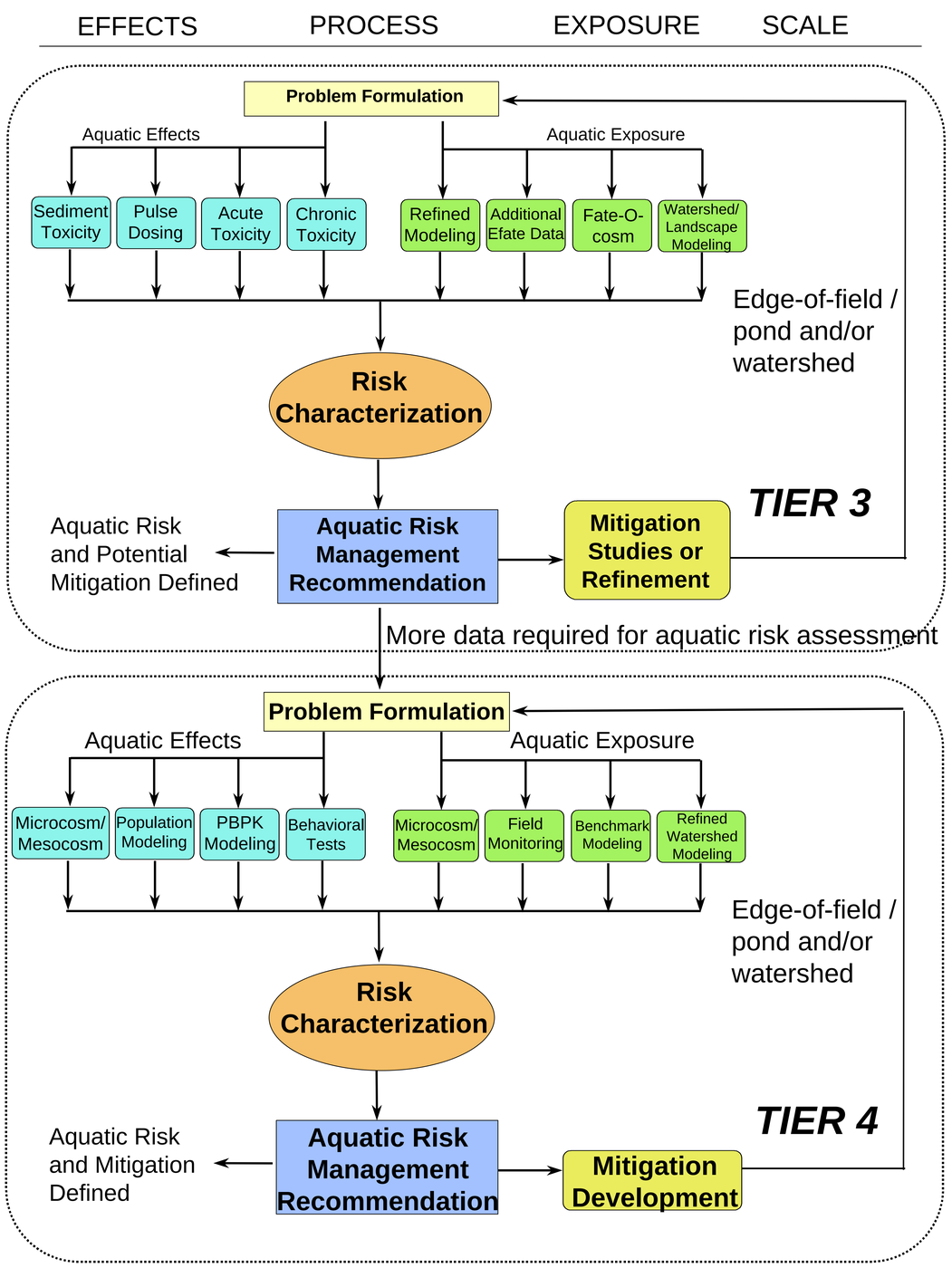
PRELIMINARY FINDINGS OF THE ECOLOGICAL COMMITTEE ON FIFRA RISK ASSESSMENT METHODS (ECOFRAM): VII. AQUATIC RISK CHARACTERIZATION AND TIERED RISK ASSESSMENT PROCESS

ECOFRAM Aquatic Exposure and Effects Subcommittees

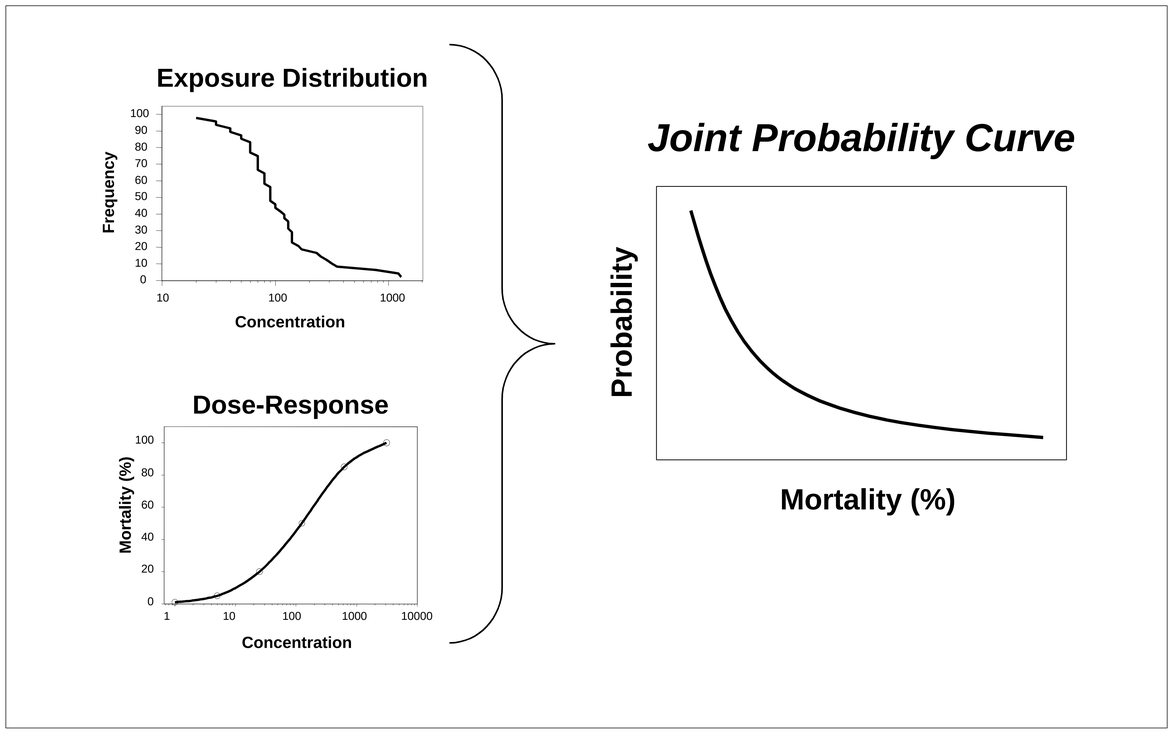
Abstract

The Aquatic Exposure and Aquatic Effects Subcommittees of ECOFRAM have developed a tiered scheme for aquatic risk assessment of pesticides, consistent with the EPA's Framework for Risk Assessment, that integrates new developments in exposure and effects analysis. The lowest tier of the risk assessment process incorporates generic worst-case exposure modeling and a standard set of acute and chronic toxicity tests. Risk characterization at the lowest tier is based on risk quotients. At higher tiers, exposure is expressed probabilistically (see Poster V) and effects are expressed in terms of population- and community-level assessment endpoints as well as individual-based measurement endpoints (see Poster VI). Risk is characterized in the higher tiers as a function of probability of exposure and magnitude of ecological effect. Risk mitigation options (aimed at reducing exposure) are evaluated after each phase of the assessment. Results of risk characterization are conveyed to risk managers, who weigh the risks and benefits associated with each pesticide before making decisions on product registration.

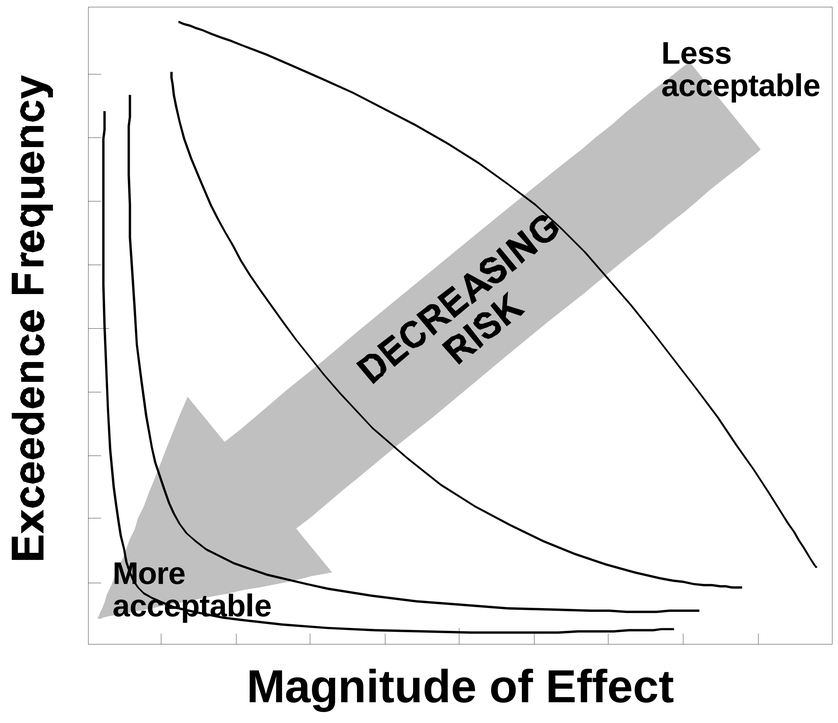




Risk Characterization:
Integrating Exposure and Effects Distributions into a Joint Probability Curve



Using Joint Probability Curves to Evaluate Relative Risk



Using Joint Probability Curves to Make Risk Management Decisions